IDRC

Program Directions

Information Sciences Division

September 1985

CANADA

Introduction to IDRC

The International Development Research Centre (IDRC) is a corporation created by the Parliament of Canada in 1970 to stimulate and support scientific and technical research by developing countries for their own benefit.

Although IDRC is funded entirely by the Canadian Parliament, to which it reports annually, its operations are guided by an international 21-member Board of Governors. Under the IDRC Act, the chairman, the vice-chairman, and nine other governors must be Canadian citizens; in practice, 6 of the remaining 10 governors are from developing countries.

One of the most important criteria used by IDRC in the consideration of projects is that the proposed work fit within a priority expressed by a developing-country government or research institution. Most of the 2000 research and research-related technical assistance projects funded by IDRC since 1970 have been identified, designed, and managed by Third World researchers. Institutions in more than 100 countries have received IDRC grants.

In carrying out its mandate, IDRC not only provides funding, but its program officers also give technical advice to researchers and monitor their progress. The Centre also helps to create and maintain international research networks that allow the developing countries to share their findings and engage in joint research. It also promotes collaboration between research groups in developing countries and their Canadian counterparts.

IDRC has seven program divisions: Agriculture, Food and Nutrition Sciences; Health Sciences; Information Sciences; Social Sciences; Fellowships and Awards; Communications; and Cooperative Programs. The latter division links Canadian and Third World scientists in joint research projects in a variety of disciplines.

The fields of investigation to which IDRC gives its financial and professional support affect — directly or indirectly — the day-to-day lives of people in the developing world. These areas include: farming; food storage, processing, and distribution; forestry; fisheries; animal sciences; energy; tropical diseases; water supplies; maternal and child health; education; population studies; economics; communications; urban policies; science and technology policy; and information systems.

With its headquarters in Ottawa, Canada, IDRC has six regional offices around the world. Offices and addresses are listed on the last page.

Information Sciences

One of the ways in which IDRC is unique among development-aid agencies is that it has, from the start, maintained a major program in the Information Sciences, making grants for the establishment of better information systems and services to meet the needs of scientists, technologists, and officials in the developing countries.

It would be easy to spend many times the resources available to the Centre in this way. There are thousands of libraries and documentation centres, any one of which would be greatly aided by the injection of a few thousand dollars per year to acquire more materials, to better train the staff, or to increase and improve the output services. But to provide money in this indiscriminate way would be to miss an opportunity. With the resources at its disposal, the Division can — by being *selective* about the initiatives that it will support — encourage those endeavours that will bring about a rationalization of efforts in the developing countries and lead to the building of more efficient and effective programs. Since its inception, the Division has been guided by the following beliefs:

- That the volume of scientific literature is so enormous that no country, certainly no developing country, has the resources to build an independent and comprehensive national information system. Hence, any attempt to address the needs of the developing countries must be based upon cooperation.
- That, for any country, the most important information is that which has been generated within the country. The production of information reflects the investments that a country has made in research and other studies.
- That, to escape the condition of dependency, a developing country needs to have the skills to reach out into the rest of the world to acquire those pieces of information that it has identified as important to its development process; it cannot rely on foreign sources to make the selections on its behalf.
- That the existing unconnected proliferation of libraries and documentation centres results in much duplication of effort, and that interconnection and cooperation can lead to a more rational use of resources and the avoidance of waste.

Program Directions

Like other Divisions of IDRC, the Information Sciences Division works primarily by supporting "projects," each representing a grant of money to support an activity in a recipient institution. Altogether, in developing countries, the Division has now supported more than 250 such

projects totaling about $50 million in grants. In recent years many of the requests have not been for money but rather for professional advice, training within IDRC, or the acquisition of computer software produced at IDRC.

International Cooperative Information Systems

Over the last two decades, the world has seen progress in the development of systems that share, among many countries or institutions, the work of identifying and indexing new information. The formula for these systems enables all members to participate equitably and to have an equal voice in their management. It requires each member to do an amount of work that is proportional to the amount of information being produced on its own territory. The total file of information becomes available to all participants, and any payments can be made in local currencies.

Perhaps the best example of an international cooperative information system is one that covers the agricultural sciences and technology: it is known as AGRIS and is managed by the Food and Agriculture Organization of the United Nations (FAO). Each country names an institution responsible for identifying the new agricultural documents (books, journal articles, laboratory reports, theses, etc.) issued within its territory. It reports these in a standard form to FAO, which merges all the contributions and constructs a "data base" from them. The AGRIS data base now contains descriptions of more than 1 million documents, about 120,000 new items being added each year. Copies of the data base are available to all participants, both on magnetic tape for computerized information retrieval and in the form of printed lists and indexes.

IDRC has contributed to the development and exploitation of AGRIS in many ways. We worked with FAO in the original design of the system by assigning staff and by providing opportunities for the developing countries to express their needs. When AGRIS went into operation, we helped developing countries participate in it. In a few cases we helped individual countries, but our major commitments have been to help establish regional centres that work on behalf of individual countries while they are establishing their own teams. For example, the Inter-American Institute for Agricultural Sciences, in Costa Rica, operates a major program for Latin America and the Caribbean as an intermediary between the individual countries and FAO in Rome. It provides training and consultants to the national participating institutions; it produces teaching materials in Spanish; it publishes in Spanish a regional bibliography based partly upon the AGRIS file; it is organizing Latin American libraries to cooperate in providing the full texts of the documents that are cited in AGRIS. Similarly, in the Philippines, we

have supported the Southeast Asian Regional Center for Graduate Study and Research in Agriculture, which coordinates the Agricultural Information Bank for Asia (AIBA) and acts as an intermediary between Southeast Asian AGRIS participants and FAO.

Grants from IDRC have been instrumental in helping to establish cooperative information systems for other "missions," for example, an information system on population questions for Latin America (DOCPAL), which is managed by the Latin American Demographic Centre (CELADE) in Chile. In Latin America also, cooperative systems are under development on human settlements and on water supplies and sanitation.

A cooperative information system essentially brings together a community of organizations with common information needs. For economic and social development in general, perhaps the most significant community is that of ministries of planning, development banks, and like organizations. For much of our history, we have supported initiatives leading to the building of information systems for this community. In 1975 the Centre with five other international organizations conducted a feasibility study for a development sciences information system (DEVSIS).

Although DEVSIS does not yet exist on a worldwide basis, several important regional initiatives have been undertaken. All of them adopt, to a considerable degree, the methodologies recommended during the feasibility study. IDRC has supported the work of the UN Economic Commission for Latin America (CEPAL) in Chile in the design and prototype operation of a system called INFOPLAN, which involves the participation of ministries of planning; and with the help of both IDRC and the UN Development Programme (UNDP), the UN Economic Commission for Africa (ECA) is launching a cooperative system to be known as DEVSIS-Africa.

Cooperative information systems provide a framework within which IDRC can make grants with a high degree of confidence. As they can be launched only when there is political agreement, stability and the commitment of local staff and resources are assured; and the direct involvement of the developing countries in their management and operation ensures that the information developing countries produce and need figures in the outputs.

Specialized Information Centres

The building of a cooperative information system across national boundaries entails a significant effort in organization and training. It makes sense only when the "mission" to be covered is fairly broadly defined — "agriculture" or "development planning." The system then produces an indexed inventory of what relevant

information is currently becoming available. But, particularly for the developing countries, a higher level of sophistication is also needed in an information service.

Often what clients need most are not original documents but information specifically tailored to respond to their inquiries, in their own language and at their own level of understanding. The quality of an information service at this level can be assured only if the librarians and documentalists work very closely with scientists who are themselves authorities in the subject matter. Hence IDRC seeks to place specialized information services in institutions that are themselves centres of excellence for research in the subjects to be treated. Then, with close collaboration between the scientists and the information specialists, such a centre can be responsive to individual needs by offering evaluated, selected, synthesized, and repackaged information. The service will still need to make a collection of information on its subject, but, with a narrow subject focus, the whole collection can be accommodated without necessarily having recourse to a computer for retrieval purposes.

IDRC has, over the years, made grants to specialized information centres on the following topics: cassava (Colombia); tropical grain legumes (Nigeria); on-farm irrigation science and technology (Israel); sorghum and millets (India); coconuts (Sri Lanka); African maps (Ethiopia); rural youth activities (Costa Rica); packaging materials and techniques (Hong Kong); geotechnical engineering (Thailand); ferrocement (Thailand); and environmental sanitation (Thailand). We expect that support for specialized information centres will remain a continuing component of the Information Sciences program.

Information for Nonscientists

With the assistance of IDRC, an African team established the quarterly magazine *Famille et Développement*, which has a wide circulation throughout francophone Africa. The magazine addresses development issues as they affect the family — hygiene, nutrition, infant care, sex education, consumerism, tobacco, alcohol, the cinema. It is now owned and operated by the Association africaine d'éducation pour le développement (ASAFED), a voluntary body incorporated under the laws of Senegal.

In the same geographic area, many African communities are served by *animateurs*, individuals placed there by governments or voluntary agencies; they work with the people to help them take charge of their own affairs and to demonstrate how, by local initiative, the quality of life can be improved. But the *animateurs* also need advice and, from time to time, need to refer their particular problems, which may be social, economic, or techni-

cal, to a source of information. Such a question-and-answer service for *animateurs* is supported by IDRC and the Institut africain pour le développement économique et social (INADES), which has its principal office in the Ivory Coast.

Industrial Extension

In many developing countries, there are thousands of small entrepreneurs with factories based largely on local raw materials. While some attempt to reach a larger market, most are concerned with providing products for local use. In the past, such factories have usually lacked any access to technical advice. The processes have been handed down within the entrepreneur's family, and the work force has been trained only within the plant itself. For such enterprises, even a small input of technical advice, often at quite a primitive level, can effect big changes — by reducing waste of raw materials or by enhancing the quality of the product.

In 1972, we decided to help national institutions in Southeast Asia that were seeking to put industrial extension people at the disposal of these small enterprises. Under the sponsorship of IDRC, cooperative training programs were established and the extension people were enabled to exchange their experiences through an association known as Technonet-Asia.

Eventually the 11 participating institutions (from nine countries) decided to put the program on a continuing basis, and Technonet-Asia was formally incorporated under the laws of Singapore. The participating institutions are themselves contributing to the cost of operating Technonet-Asia, which is now widely seen as a model that might be useful in other parts of the world.

Cartography

Maps remain one of the most effective media for presenting large amounts of data and displaying relationships — a very useful tool in development planning and operations. The relatively small IDRC program in this area has concentrated on the production of "thematic" rather than topographical maps, i.e., maps displaying such topics as the pattern of land use or the existence of hydrological or mineral resources. Five projects, in Bangladesh, Bolivia, Mali, Sudan, and Tanzania, were aimed at introducing the skills necessary for interpreting the data from the United States' LANDSAT satellites and producing thematic maps from these data.

Activities in Canada

If Canadian scientists are to appreciate the needs of the developing countries and the particular constraints within which these countries must find solutions, then they must have access to an adequate and sensitive information service.

To this end, the Centre has established a library and information service that respond to the needs of IDRC's own staff and the larger Canadian development community. A carefully selected collection of more than 45,000 items relating to economic and social development, particularly in rural areas of developing countries, has been put together and described in a computerized data base. Inquiries are answered from all across Canada and, recently, the IDRC computer has been opened up so that the data base may be interrogated directly from remote locations. This on-line computer service also offers access to the data bases compiled by several United Nations agencies.

IDRC's capacity to build, manage, and search computerized data bases has also been directly employed to help fill important gaps in worldwide efforts to meet the information needs of developing countries. For example, as information about the various efforts to deliver health-care services in rural areas of developing countries was not widely available, IDRC set about collecting it and now offers an information service known as SALUS. A computerized data base with about 12,000 records is made available, as well as printed, indexed bibliographies derived from it; most of the original documents have been put on microfiche and are made available free of charge to developing countries, individually or in sets.

Similarly, and to complement the DEVSIS-related efforts in Latin America and Africa, IDRC is experimenting in applying the DEVSIS methodology to the information produced in Canada about the economic and social development problems of the Third World. In recent years, several other countries have participated in the Ottawa DEVSIS demonstration, most particularly the Federal Republic of Germany, but also a number of countries in North Africa and Southeast Asia.

Originally, IDRC's on-line computer activities were based on a set of computer programs developed by the International Labour Office; but they required a large computer, and operations were expensive. In 1976, we started to devise a similar set of programs, known as MINISIS, which operates on a relatively low-cost minicomputer (the Hewlett Packard 3000). MINISIS has proved to be very successful in Ottawa, and is being widely adopted in other countries. MINISIS is made available free of charge to developing countries; industrialized countries are expected to pay licence fees.

Project Criteria

In order to obtain funding from IDRC, any proposal for a research project must meet certain criteria. These are kept as flexible as possible in order to permit consideration of a wide range of research proposals, but the

following questions give an indication of the Centre's basic funding philosophy.

- Does the proposal fit within a priority expressed by a government or research institution in a developing country?
- Are the research findings likely to have useful application beyond the country in which the project is carried out?
- Will the research help close gaps in living standards and lessen the imbalance in development between rural and urban areas?
- Will the project make the fullest possible use of local resources and research workers from the region?
- Will the project result in better trained and more experienced researchers?

Funding is naturally limited by the Centre's program of work and budget, which is drawn up in consultation with developing-country researchers and policymakers, and is subject to approval of the Centre's annual grant by the Parliament of Canada.

Institutions receiving an IDRC grant are themselves expected to make a substantial contribution to the project, proportional to their ability to provide such support. This often takes the form of staff time and use of facilities and support services.

Project Development

Before a project is submitted to IDRC's Board of Governors for final approval it goes through several stages of development, involving both IDRC program staff and the institution presenting the proposal.

Preliminary inquiries and proposals often reach IDRC through one of the regional offices, which serve as the Centre's link with the researchers and policymakers of the developing countries, and actively encourage and assist the development of research proposals.

Once the initial request has been evaluated, a formal proposal will be prepared, often in collaboration with IDRC staff. At this stage the Centre may also provide additional assistance if it is needed, such as a pre-project development workshop. Each program division has a special budget allocation for such activities.

When the research proposal is in a final form satisfactory to all concerned, a project summary and budget are prepared and placed before IDRC's Projects Committee for discussion. Having received approval in principle from the committee, the project finally goes before the Governors at one of their regular meetings.

This entire process, from initial contact to the receipt of a grant, may take months, even years if a considerable amount of project development activity is required. Much depends on factors such as the state of the initial

proposal, its complexity, the need for preproject activity, and the availability of local resources, facilities, and of course staff. Under normal circumstances, however, a written response to a preliminary proposal or inquiry can be expected within a matter of weeks.

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September 1985